

# 60

## Evaluate

$$\left(\frac{1}{8}\right)^{-\frac{2}{3}}$$

# 10

If  $\frac{28}{\sqrt{2}}$  is expressed  
in the form  $a\sqrt{2}$   
what would be the  
value of  $a$ ?

# 125

If a bag of potatoes weighs 2.5 kg correct to 2 s.f. What would be the upper bound for the weight of 5 bags of potatoes?

# 12.75

If  $(3 - 2\sqrt{5})^2$  is  
expressed in the  
form  $a + b\sqrt{5}$   
what would be the  
value of  $a$ ?

2

If  $(3 + 2\sqrt{5})^2$  is  
expressed in the  
form  $a + b\sqrt{5}$   
what would be the  
value of  $b$ ?

7

$$p = \sqrt{8} \text{ and } q = \sqrt{2}$$

What is the value of  
 $4pq$  ?

# 16

Use 'completing the square,  
to find the minimum value of

$$x^2 - 8x + 21$$

8

Given that  $x > 0$  solve

$$4x^2 - 25 = 0$$



# 11

$$\frac{3x}{x-5} + \frac{x+2}{x-2}$$

is simplified to the form

$$\frac{ax^2 - bx + c}{x^2 - 7x + 10}$$

What is the value of  $b$ ?

# 13

$$\frac{3x + 2}{x - 5} - \frac{2x}{x - 2}$$

is simplified to the form

$$\frac{ax^2 + bx + c}{x^2 - 7x + 10}$$

What is the value of  $b$ ?

# 70

$y$  is inversely  
proportional to  $x$ .  
When  $y = 10$ ,  $x = 4$ .  
What is the value of  $x$   
when  $y = 0.5$ ?

# 80

The line  $y = x + 2$  intersects  
curve  $y = x^2 - 8x + 16$  at  
2 distinct points A and B  
(B has the larger of the  
two y-coordinate values).

What is the value of the  
x-coordinate at B?

6

What is the  
gradient of a line  
perpendicular to  
the line

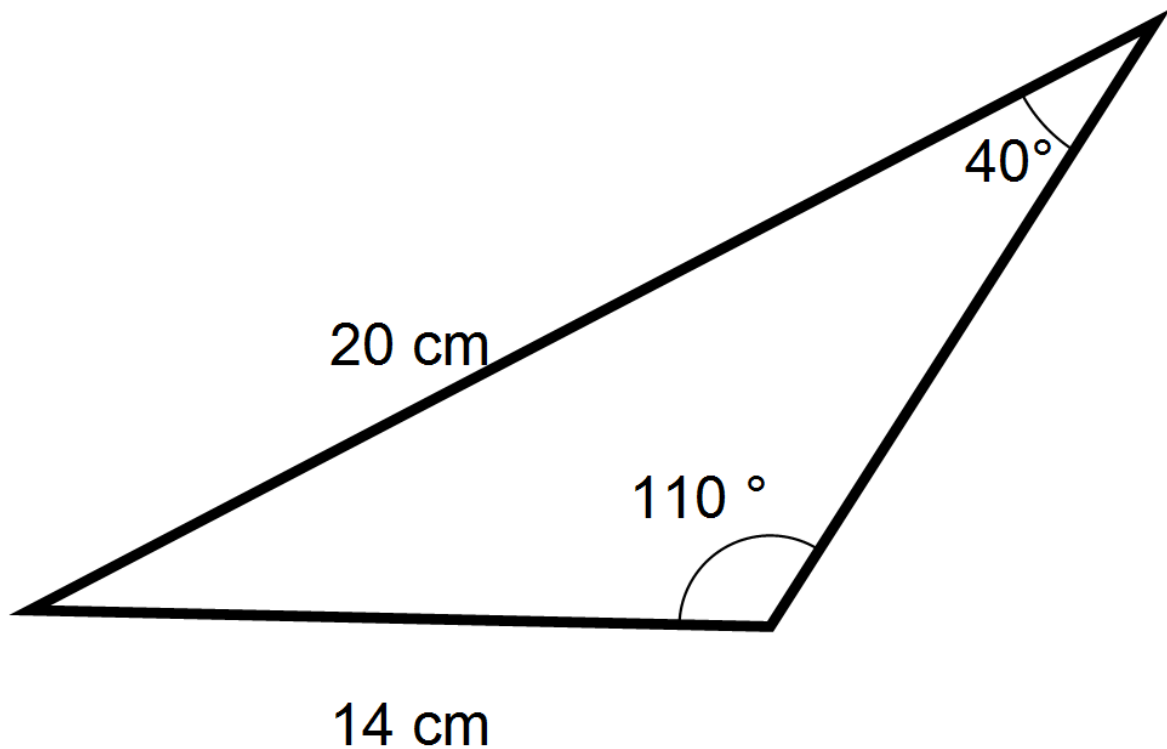
$$6y + 3x = -2?$$

# 12

If  $\sin x = c$  has one solution at  $x = 55^\circ$  what would be the value of the other solution if  $0^\circ < x < 360^\circ$

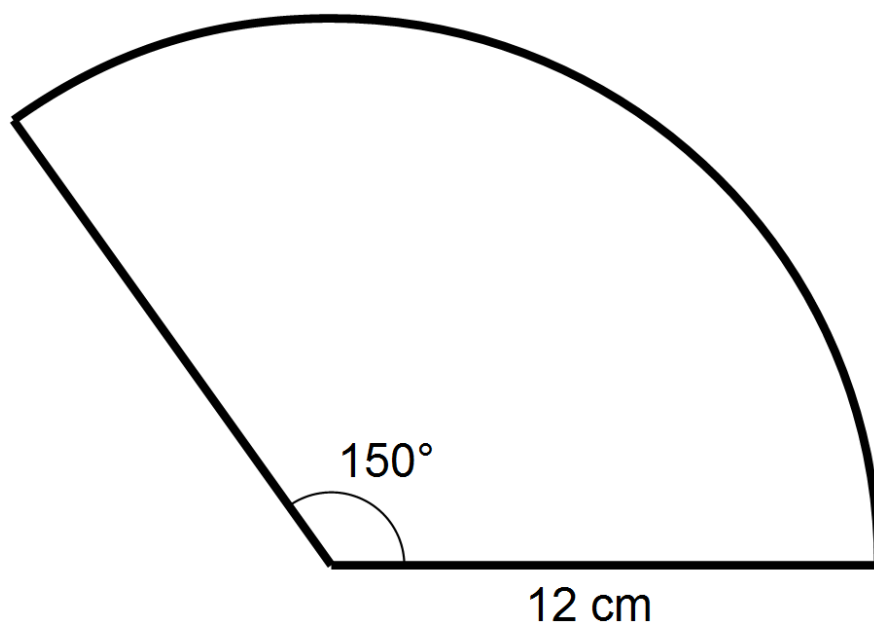
# 29

Given that  $\sin 30^\circ = \frac{1}{2}$  calculate the area of the triangle.



# 5

The area of the sector is expressed in the form  $a\pi \text{ cm}^2$ .



Calculate the value of  $a$



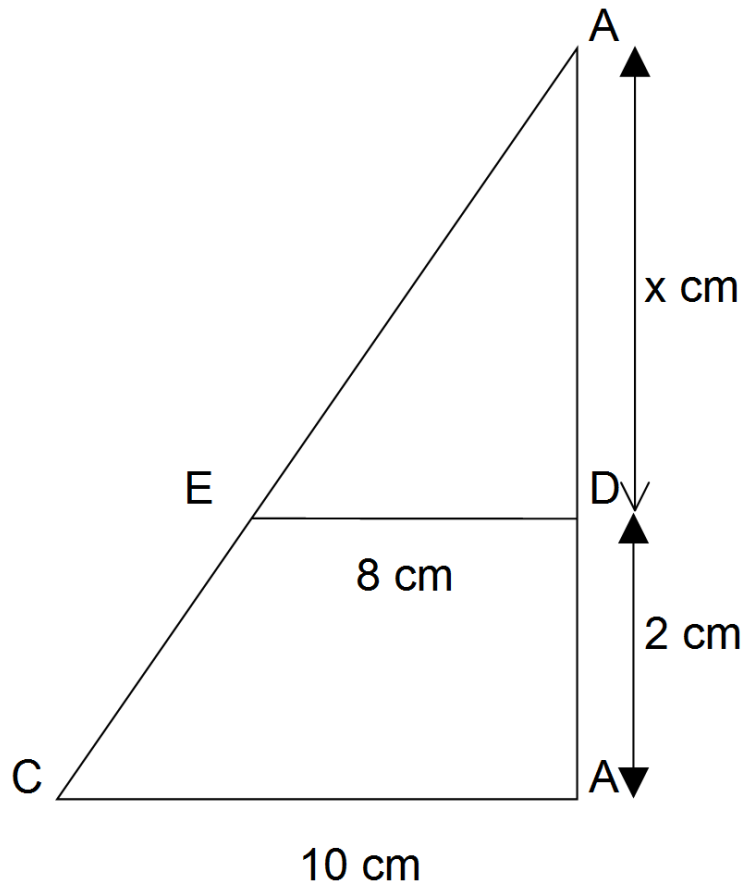
# 4

A stratified sample of size 40 is to be taken from the following year groups.  
How many students would be chosen from year 9?

Year	Number of students
7	156
8	204
9	140

# 9

The two triangles are mathematically similar. Calculate the length of  $x$ .



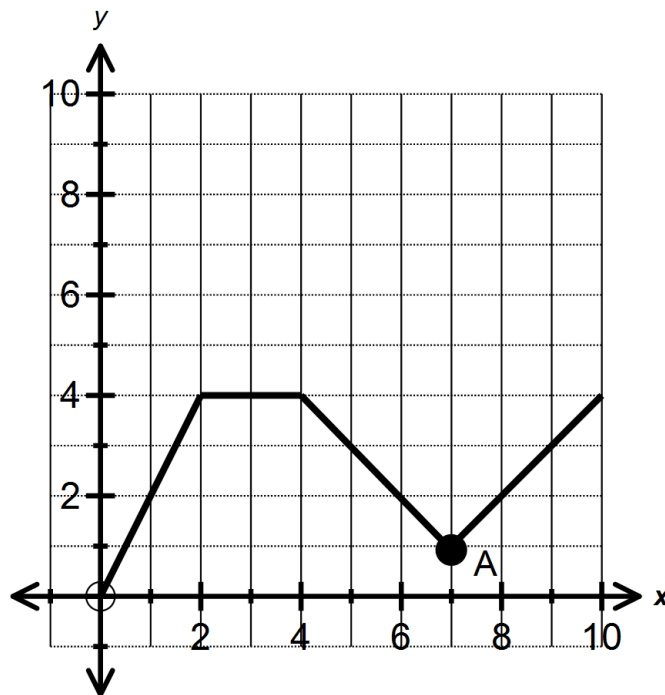
# 14

A bag contains 5 red and 3 blue balls. A ball is selected at random without replacement, and a second ball is then selected. The probability of picking at two balls of the same colour is  $\frac{x}{28}$ .

What is the value of  $x$ ?

# 2.5

The graph of  $f(x)$  is shown below. What would be the  $x$ -coordinate of point A for the graph of  $y = f(x - 3)$ ?



# Answer Sheet

## GCSE Higher Revision 1HA

